



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Roger E. Welser, Paul M. Deluca and Noren Pan
Application No.: 10/824,697 Group: 2813
Filed: April 14, 2004 Examiner: Not Assigned
Confirmation No.: 6799
For: BIPOLAR TRANSISTOR WITH LATTICE MATCHED BASE LAYER

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| CERTIFICATE OF MAILING OR TRANSMISSION | |
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or is being facsimile transmitted to the United States Patent and Trademark Office on: | |
| 8-11-04 | <i>Jane Morgan</i> |
| Date | Signature |
| Jane Morgan | |
| Typed or printed name of person signing certificate | |

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Information Disclosure Statement is submitted:

- ☐ under 37 CFR 1.129(a), or
(First/Second submission after Final Rejection)
- ☒ under 37 CFR 1.97(b), or
(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application; or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).
- ☐ under 37 CFR 1.97(c) together with either:
- ☐ a Statement under 37 CFR 1.97(e), as checked below, or
- ☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with:
- ☐ a Statement under 37 CFR 1.97(e), as checked below, and
- ☐ a \$180.00 fee under 37 CFR 1.17(p), or
(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)
- ☐ under 37 CFR 1.97(i):
Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.
(Filed after payment of issue fee)

Statement Under 37 CFR 1.97(e)

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- ☐ Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.
- ☒ Enclosed herewith is form PTO-1449:
 - ☐ Copies of the cited references are enclosed.
 - ☐ Since this application was filed after June 30, 2003, copies of issued U.S. patents and published U.S. applications are not required and are not being provided.
 - ☒ Copies of the cited references are enclosed except those entered in prior application, U.S. Application No. 09/995,079, to which priority under 35 U.S.C. 120 is claimed. The earlier application contains copies of the cited references.
 - ☐ The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
 - ☒ The "concise explanation" requirement (non-English references) for references AN and AO under 37 CFR 1.98(a)(3) is satisfied by:
 - ☐ the explanation provided on the attached sheet.
 - ☐ the explanation provided in the Specification.
 - ☐ submission of the enclosed International Search Report.
 - ☐ submission of the enclosed English-language version of a foreign Search Report and/or foreign Office Action.
 - ☒ the enclosed English language abstract of reference AN.
 - ☒ the previously entered English language abstract of reference AO in the earlier application.

☐ Applicant requests that the following non-published pending applications be considered:

Examiner's
Initials

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

Examiner

Date

☐ A copy of each above-cited application, including the current claims, is enclosed.

☐ A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

☐ A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.

☐ Please charge Deposit Account 08-0380 in the amount of \$[]. A copy of this Statement is enclosed.

☒ Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

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Dated: 8/11/04

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| PTO-1449 REPRODUCED | | ATTORNEY DOCKET NO. 0717.2013-013 | | APPLICATION NO. 10/824,697 | |
| INFORMATION DISCLOSURE CITATION IN AN APPLICATION August 9, 2004 (Use several sheets if necessary) | | FIRST NAMED INVENTOR Roger E. Welser | | FILING DATE April 14, 2004 | |
| | | EXAMINER Not Assigned | | CONFIRMATION NO. 6799 | |
| | | | | GROUP 2813 | |

U.S. PATENT DOCUMENTS

| EXAM- INER INI- TIAL | REF. NO. | DOCUMENT NUMBER Number-Kind Code (if known) | ISSUE DATE / PUBLICATION DATE MM-DD-YYYY | NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT |
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| | AA | US 2001/0040244 A1 | 11-15-2001 | Fitzgerald, <i>et al.</i> |
| | AB | 6,031,256 | 02-29-2000 | Liu, <i>et al.</i> |
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| | AD | US 6,285,044 B1 | 09-04-2001 | Bhat |
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| PTO-J449 REPRODUCED INFORMATION DISCLOSURE CITATION IN AN APPLICATION August 9, 2004 (Use several sheets if necessary) | ATTORNEY DOCKET NO. 0717.2013-013 | | APPLICATION NO. 10/824,697 | |
| | FIRST NAMED INVENTOR Roger E. Welser | | FILING DATE April 14, 2004 | |
| | EXAMINER Not Assigned | | CONFIRMATION NO. 6799 | GROUP 2813 |

| FOREIGN PATENT DOCUMENTS | | | | | | |
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| | | DOCUMENT NUMBER Country Code-Number-Kind Code (if known) | DATE MM-DD-YYYY | NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT | TRANSLATION YES NO | |
| | AL | WO 01/03194 A1 | 01-11-2001 | Picogiga | X | |
| | AM | WO 02/43155 A2 | 05-30-2002 | Kopin Corporation | | |
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| PTQ-1449 REPRODUCED INFORMATION DISCLOSURE CITATION IN AN APPLICATION August 9, 2004 (Use several sheets if necessary) | ATTORNEY DOCKET NO. 0717.2013-013 | | APPLICATION NO. 10/824,697 | |
| | FIRST NAMED INVENTOR Roger E. Welser | | FILING DATE April 14, 2004 | |
| | EXAMINER Not Assigned | | CONFIRMATION NO. 6799 | GROUP 2813 |

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | |
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| AV | Sugiura, <i>et al.</i> , "Characterization of heavily carbon-doped InGaAsP layers grown by chemical beam epitaxy using tetrabromide," <i>Applied Physics Letters</i> , 73(17):2482-2484 (1998). |
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| AT2 | Liu, W., <i>et al.</i> , "Current Transport Mechanism in GaInP/GaAs Heterojunction Bipolar Transistors," <i>IEEE Transactions on Electron Devices</i> , 40(8):1378-1383(1993). |
| AU2 | Lu, Z.H., <i>et al.</i> , "Determination of band gap narrowing and hole density for heavily C-doped GaAs by photoluminescence," <i>Appl. Phys. Lett.</i> , 64(1): 88-90(1994). |

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|------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | AY3 | Stillman, G. E., <i>et al.</i> , "Carbon-doped InGaAs grown by MOCVD for InP/InGaAs heterojunction bipolar transistors", <i>Inst. Phys. Conf. Ser. No. 129:687-692</i> (1992). |
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